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Psychiatric Disorder in Renal Patients

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Patients with chronic kidney failure are one of the most complex conditions in the practice of consultation-liaison psychiatry (CLP). This is due to the long course of the disease and treatment. It is also related to the complications of the kidney failure that often appear to make patients helpless dealing with it. One of the complications of kidney failure is mental disorder symptoms. This paper presents three cases of chronic kidney failure that had psychiatric disorder which were common experienced by chronic kidney failure patients: delirium, depression, and disequilibrium syndrome. Each case has a background of a different physiology and psychopathology. The handling of cases with psychiatric disorder in patients with chronic kidney failure were adjusted to patient's general medical condition and psychopathology.

Keywords: kidney failure, depression, complication

Pasien dengan gagal ginjal kronis adalah salah satu kondisi pasien yang paling kompleks dalam praktek psikiatri konsultasi liaison. Hal ini disebabkan karena perjalanan penyakit yang panjang dan komplikasi yang sering muncul membuat pasien sering tidak berdaya menghadapi penyakit. Selain itu gagal ginjal kronis sendiri sering membawa komplikasi dalam bentuk gejala gangguan jiwa. Tulisan ini mengemukakan tiga kasus pasien gagal ginjal kronis yang mempunyai komplikasi gangguan jiwa yang paling sering dialami pasien yaitu; delirium, depresi dan sindrom disequilibrium. Masing-masing kasus mempunyai latar belakang fisiologi dan psikopatologi yang berbeda. Penanganan kasus-kasus gangguan kejiwaan pada pasien gagal ginjal kronis disesuaikan dengan kondisi medis umum pasien dan psikopatologinya.

Kata kunci: gagal ginjal, depresi, komplikasi

Patients with chronic kidney failure are one of the most complex conditions in the practice of consultation-liaison psychiatry (CLP). Physical conditions dependent on various kinds of metabolic disorders are just one of the causes that make the management of patients with these conditions more complex. Besides the physical conditions, chronic kidney failure patient's psychological condition were also very influenced. Other than the long experience with the illness, the patients' feeling of helplessness and discomfort from being dependent on the hemodialysis machine is often the source of despair, causing further psychological complications (Blumenfield & Kassab-Tiamson, 2009).

Globally, there are 200 cases of kidney disorders for every one million inhabitants. Eight million subjects in the total population have chronic kidney failure. Previous research stated that there is a correlation between suffering kidney failure with the development of psychiatric disorders in patients. This condition can happen in both acute and chronic kidney failure cases. The most frequently correlated condition in acute kidney failure cases is delirium (Cohen, Tessier, Germain, & Levy, 2004).

Case Illustrations

Various cases related to the psychiatric disorders were found in patients with kidney disorders, such as these three case illustrations with different psychiatric symptoms and complaints.

Case Illustration 1

A 48-year old patient was treated with the diagnosis of chronic kidney failure, planned for hemodialysis the

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next day. That afternoon, I was consulted by the internist treating the patient because the patient seemed to be restless, the patient's psychomotor movement active and tend to be aggressive, and also seemed extremely disoriented. When I arrived to meet the patient, I saw the patient being curbed with bonding fabric because he was very restless. The mental state examination confirmed the disruption in focusing, maintaining, and diverting attention. The patient also experienced chaos in time, place, and individual orientation. The diagnosis of delirium in the general medical condition was enforced. Intravenous injection of 2.5 mg Haloperidol was administered. An hour later, continued observation showed that the patient's condition was calmer. Hemodialysis was conducted according to schedule the morning of the following day.

Case Illustration 2

A 48-year old male patient with chronic kidney failure, undergoing regular hemodialysis in the past two years, twice a week. The patient had never missed his hemodialysis. In the past year, the patient had difficulties controlling his diet, never following the diet instructions from his doctor. Food rich in Kalium (K), such as potatoes, was eaten by the patient without limitation. He also continued to smoke and eat his favorite food, goat-meat satay, several dozens of skewers in one meal. The patient also did not want to reduce his liquid intake, despite the fact that his urine output being only around 500cc daily. The patient was consulted to me by the tending internist. Examination resulted in the diagnosis of depression disorder. He stated that it would be best for him to die soon so he would not trouble others. Until now, the patient continued psychotherapy and treatment to reduce his depression.

Case Illustration 3

A 56-year old male patient with acute kidney failure, just underwent his first hemodialysis. Two hours after the hemodialysis, the patient started to speak randomly, incoherently, and restlessly. The patient seemed to always want to rise up from his bed because of feeling uncomfortable from sitting down for too long. Psychomotor movement showed clear agitation. I was consulted for the patient and immediately arrived to check on the patient's condition. Laboratory examinations showed that the level of ureum, creatinin, and urea nitrogen in the blood were in normal condition. There was no history of such condition in the patient's past and there was also no history of other psychiatric disorders. The diagnosis was a syndrome of disequlibrium. A 0.5 mg of lorazepam was administered to reduce the patient's agitation. Twenty four hours after the last checkup, the patient seemed to be back to normal, without any sequel.

Discussion

Psychiatric Condition Related to Kidney Failure

Delirium. Delirium in kidney failure is related to the kidney's inability to expel toxic metabolites from the body through the urinary tract. It can be caused by an increase in the ureum level in the blood (uremia), anemia, and hyperparatiroidism. This condition can also happen concomitantly with the increase in diabetic patients, undergoing dialysis because of their renal dysfunction. The mental state in this condition will change from having difficulties in concentration and disruption in intelligence to apparent confusion accompanied by lethargy (Levy, Cohen, & Tessier, 2006).

The most important matter is to differentiate it from dialysis dementia or a condition of dementia that occurred before the kidney disorder. An early detection of cognitive disorder by using the Mini Mental State Examination (MMSE) can be administered routinely in renal patients, especially the elderly (Levy, Cohen, & Tessier, 2006).

In general, with hemodialysis, the cognitive disorder condition will return to normal, but in some cases, the condition is persistent. In the first case, the delirium condition occurred in a patient that had not undergone hemodialysis. The administration of small dose of anti-psychotic or anti-anxiety is often useful in coping with the symptoms of delirium. It should be noted that such a of treatment is temporary until the causal disorder is treated or cured (Levy, Cohen, & Tessier, 2006).

Depression. Depression is the most frequently encountered mental disorder in kidney failure patients. The prevalence of severe depression in the general population is around 1.1%-15%in males and 1.8%-23% in females, but in hemodialysis patients, the prevalence is around 20%-30%, even could reach 47%. The relation between depression and high mortality is also encountered in patients undergoing long term hemodialysis (Chen, et al., 2010). The negative affective condition in kidney failure patients undergoing hemodialysis often has overlapping symptoms with the symptoms of kidney failure patients experiencing uremia, such as irritability, cognitive disorder, encephalopathy, effect of treatment or submaximal hemodialysis treatment (Cukor et al., 2007).

According to the psychodynamic approach, depression disorder is a condition related to the loss of something in the human's self. This condition commonly occurs on patients with chronic medical disorders, including patients with kidney failure. The patient's self-perception of extreme loss in the patient's life exceeds the real condition, which can be less extreme than what is perceived by the patient. Even though in several severe conditions, the patient's kidney condition is in accordance to the patient's perception regarding the patient's chronic illness (Chan, Brooks, Erlich, Chow, & Suranyi, 2009).

Kidney failure condition usually accompanied with hemodialysis is a very uncomfortable condition. The fact that the kidney failure patients, especially chronic kidney failure, cannot escape hemodialysis their whole life long result in significant psychological effects. The factor of losing something that was available, such as freedom, work, and independence is a matter closely felt by kidney failure patients undergoing hemodialysis. This can cause real depression symptoms, up to the action of suicide.

Literatures recorded that suicide in chronic kidney failure patients undergoing hemodialysis in the United States of America can reach 500 times more than in the general population. Aside from the real actions in suicide, the rejection of scheduled hemodialysis and the non-compliance in low-potassium diet are actions that can be considered to be a 'subtle' effort of suicide (Chan, Brooks, Erlich, Chow, & Suranyi, 2009).

What happened in the second illustration patient was a condition showing the depressive situation experienced by the patient. Non-compliance to the recommended diet is a symptom of despair, one of the characteristics of the symptoms of depression. Furthermore, the patient stated that he would rather die, the ideas of death is often experienced by patients with severe depression condition. Even though there was no real suicidal behavior, the patient's non-compliance with the doctor's regulations, even seemingly opposing the regulations, was a passive-aggressive attitude shown by the patient.

Disequilibrium Syndrome. Disequilibrium syndrome condition often occurs on patients undergoing hemodialysis. It usually occurs during or immediately after the hemodialysis process. This condition is caused by excessive correction of the azotemia state, causing osmotic imbalance and rapid blood pH change. The imbalanced condition results in cerebral edema, causing clinical symptoms such as headache, nausea, muscle cramp, irritability, agitation, drowsiness, and convulsions. Psychosis symptoms can also occur. Disequilibrium syndrome usually occurs three to four hours after the hemodialysis, but can also occur eight to forty eight hours after the procedure was administered.

Usually this condition occurs in patients undergoing their first hemodialysis, such as the patient in the third case illustration. The condition commonly happens after the hemodialysis, but can quickly improve if treated correctly. Small dose antipsychotics can be administered to patients to manage the emerging psychotic symptoms caused by the condition. Haloperidol, until now, is the recommended drug due to the relatively minimal effect in patients with kidney disorder, and can be administered safely even in patients with kidney failure. The daily dose is around 1-2 mg. Reducing the dose empirically can be conducted to reduce the sedation effect that may occur. The use of atypical antipsychotics such as risperidone, quetiapine, olanzapine in several case reports were stated to be quite safe, not needing to simplify the dose for kidney failure patients experiencing psychotic symptoms caused by disequilibrium syndrome condition or dialysis dementia. Unfortunately, systematic research regarding the use of atypical antipsychotics for cases of psychotic, schizophrenia, delirium, and dementia symptoms is not yet available. Besides the effects of atypical antipsychotics in patients with glucose metabolism disorder or diabetes mellitus comorbidities should be considered before use. This is caused by the fact that atypical anti-psychotics, especially olanzapine, often induces or cause diabetes (Wyszynski, 2005; Blumenfield, Cohen, Tessier, Germain, & Levy, 2004).

Dialysis Dementia. Dialysis Dementia, also known as dialysis encephalopathy, is a fatal and progressive syndrome. In practice, it rarely occurs, usually only occuring in patients undergoing dialysis for more than a year. This condition begins with speech disorder or impairment, such as stuttering that develops into dysarthria, dysphasia, and until the patient is unable to speak at all. The longer the condition, the more severe it develops, becoming focal or complete myoclonus, focal or general convulsions, change in personality, delusions and hallucinations. Dialysis dementia is caused by aluminum poisoning from the dialysis liquid and aluminum salts used to adjust the serum's phosphate level. It can be prevented by using dialysis materials that do not contain aluminum. At first, it is possible for the condition to recover, but if neglected, it can be progressive until the next 1-15 month period after the first symptoms. Death usually occurs in the 6-12 month range after the beginning of the symptoms (Wyszynski, 2005).

Psychopharmacology on Dialysis Patients. Most psychotropics which were administered daily in medical-psychiatry practices, other than lithium were metabolized in the liver, so that there is no adaptation in the doses administered to kidney failure patients needing hemodialysis. In reality, there were often undesired effects in the kidney disorder patients. This is caused by the pharmacokinetic changes from the administered drugs. This change was related to the drug distribution in the body, the binding protein, and metabolism (Levenson & Owen, 2010).

The treatment of renal patients experiencing mental disorders is very limited to specific situations. Treatment with psychotropics cannot replace counseling and psychotherapy which were often more needed by the patients. It is very important to remember that in the treatment of delirium, in any condition, it is important to recognize the cause of the delirium. Treatment using small dose of haloperidol to relieve the psycho-motor anxiety and psychosis symptoms can be administered. Haloperidol is detoxified in the liver, making it suitable for renal patient conditions (Levenson & Owen, 2010).

Conclusion

Patients with chronic kidney failure often experience psychiatric disorder, related to their general medical condition. Phycisians need to understand the physiology and psychopathology of the occurrence of psychiatric disorder in chronic kidney failure patients. Psychiatric disorders such as delirium, depression, anxiety, and disequilibrium syndrome are often experienced by chronic kidney failure patients. The ability to identify psychiatric conditions related to the renal condition will establish better and more comprehensive treatment and management for the patients.

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